

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re application of

Pinto

Examiner: Jill M. Gray

Serial No: 10/719,698

Art unit: 1774

Filed: November 21, 2003

For: FLAME RETARDANT CABLE

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**REQUEST FOR REHEARING**  
**DECISION APPEAL DATED DECEMBER 22, 2009**

**Mail Stop Appeal -PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sirs:

In response to the Decision on Appeal dated December 22, 2009, please enter the following remarks requesting a rehearing.

As per 37 CFR 41.52(a)(1), the Request for Rehearing is authorized as this is a first request for rehearing taken directly from the original Decision by the Board.

Appellant affirms that there is no new evidence presented in this Request for Rehearing and that no new issues are being addressed.

**Summary of Appeal and Decision on Appeal**

**Brief Appeal Summary**

In the Appeal, Appellant argues that the Examiner's rejection of the claims was in error. Specifically, there were four rejections addresses in the Appeal:

1) Claims 1-20 do not contain new matter under 35 U.S.C. § 112 as argued by the Examiner on page 2 of the August 20, 2007 Office Action;

2) Claims 1-5, 7-8, 10-11, 16-17 and 20 are not anticipated by or obvious over the Murphy reference (U.S. Patent Publication No. 2003/0133679) as argued by the Examiner on page 3 of the August 20, 2007 Office Action;

3) Claims 1-8 are not anticipated by or obvious over the Sakurai reference (U.S. Patent No. 6,770,820) as argued by the Examiner on page 5 of the August 20, 2007 Office Action; and

4) Claims 1-20 are not obvious over the combination of the Hasegawa (U.S. Patent No. 6,755,995), Hall (U.S. Patent No. 6,025,422), and Ogawa (U.S. Patent No. 4,417,018) references as argued by the Examiner on page 6 of the August 20, 2007 Office Action.

Appellant's arguments against these rejections are already on the record as per the Appeal Brief. In Summary, Appellant argued that there was no new matter in the claims and that all language was supported by the specification as filed. Regarding the three prior art rejections, the Appellant argued the cited references, either alone or in combination with one another, do not teach all of the elements of claims. For Example, the combined references do not teach or suggest, among other elements of independent claim 1, that the polymerizable liquid composition also includes at least one phosphorous

group as an additional precursor such that the phosphorus group is chemically bonded to the polymer after polymerization.

**Brief Summary of Decision on Appeal**

Appellant begins by noting that the Examiner's answer did not address the rejection under 35 U.S.C. § 112 (See Appeal Brief at pages 8-11) The Decision of the Board likewise did not address this issue.

Regarding the prior art rejections the Examiner's rejection of the claims was sustained (See page 8 of the Decision). This decision broadly states that the Appellant did not meet the procedural burden of showing reversible error in the Examiner's three prior art rejections. The details of the analysis are shown on pages 5-8 of the Decision.

It is noted that the analysis section began with two paragraphs initially setting forth the Board's reasoning used in construing the term "chemically bonded" within the meaning of the claims.

The Board States:

"We begin our analysis by construing the claim phrase "chemically bonded." We note that the polymer feature of claim 1 is claimed in product- by-process format. Claim 1 requires that the phosphorous group is part of a precursor that is added to the polymerizable liquid. In other words, the plain meaning of the claim language "chemically bonded" is that the precursor with the phosphorous group is bonded to the polymer in some manner during the polymerization reaction.

Appellant refers to the Pinto Declaration of record to argue that chemical bonding with the meaning of the claim must be covalent bonding (Br. 13). However, Appellant does not define "chemically bonded" in the Specification and does not otherwise disclose "chemically bonded" as including covalent bonds. Accordingly, we decline to so limit the meaning of the term. Rather, we construe chemically bonded to include bonding (e.g., ionic, covalent, or hydrogen bonding) a phosphorous group containing compound to the polymer during polymerization."

Appellant respectfully disagrees with this analysis. As this initial analysis colors the following arguments, Appellant requests rehearing on this issue as set forth below.

**Statement of points believed to be overlooked and misapprehended by the Board**

Appellant respectfully submits that the Board of Patent Appeals and Interferences erred in sustaining the three prior art rejections under 35 USC § 103(a). Specifically, the Appellant believes that the Board misapprehended this issue regarding the meaning of the term “chemically bonded” within the claims. Appellant requests that the Board rehear this issue. Appellant further requests that the rejection of the claims under 35 U.S.C. § 103(a) be reheard in light of the rehearing of the issue of the term “chemically bonded”

**Arguments**

Appellant respectfully submits that the Examiner has committed a reversible error in the construing of the term “chemically bonded,” and in applying such misinterpretation has incorrectly concluded that the claims are prima facie obvious. Appellant submits that the Examiner’s interpretation of the term “chemically bonded” *is* reversible error and that when such error is corrected there is no case for prima facie obviousness under any of the three rejections under 35 U.S.C. § 103(a). Appellant submits that the Board misapprehended this issue by adopting the Examiner position on the meaning of the term “chemically bonded” and thus request rehearing on the issue in accordance with the follow comments.

Claim 1 currently reads:

1. A flame-retardant cable comprising:  
a transmission element;  
a flammable element; and  
a flame-retardant coating layer of cross-linkable resin surrounding said flammable element, wherein said flame-retardant layer includes a polymer obtained from a polymerizable liquid composition, and wherein said polymerizable liquid composition contains at least a precursor for said polymer, the precursor including functional groups selected from the group consisting of acrylates, methacrylates, epoxies, vinyl ethers, allyl ethers, and oxetanes,  
wherein said polymerizable liquid composition also includes at least one phosphorous group as an additional precursor such that said phosphorus group is chemically bonded to said polymer after polymerization.

In the Decision on Appeal the Board initially focuses on the language of “chemically bonded.” The board states that, “Claim 1 requires that the phosphorus group is part of a precursor that is added to the polymerizable liquid. In other words, the plain meaning of the claim language “chemically bonded” is that the precursor with the phosphorus group is bonded to the polymer *in some manner* during the polymerization reaction. (emphasis added - Decision at pg. 5)

The Board goes on to argue that, “However, Appellant does not define “chemically bonded” in the Specification and does not otherwise disclose “chemically bonded” as only including covalent bonds. Accordingly, we decline to so limit the meaning of the term. Rather, we construe chemically bonded to include bonding (eg. ionic, covalent, or hydrogen bonding) a phosphorus group containing compound to the polymer *during polymerization*. (emphasis added).

This analysis is not correct.

The specification is clear that the phosphorus group is not bonded *in some manner*

to the polymer. Rather it is incorporated into the polymer structure through polymerization. Firstly, the fact that phosphorus is referred throughout the specification as a polymer “precursor” for polymerization means that it is, by definition, a substance which forms part of the the structure for the polymer. The structural elements of a polymer chains are connected to one another by covalent bonding between the constituent elements. See January 2007 Affidavit of Oliver Pinto at paragraph 11.

Moreover, this reading of the claim language, that the term chemically bonded means covalent bonding of a precursor during polymerization is further supported by specification in the example section. The components as set forth in the exemplary compositions, such as Examples 1-2 in paragraphs [0035]-[0040] suggest that the phosphorus is part of the polymer component *to be polymerized* by the photoinitiator (DAROCUR 1173) and thus incorporated by chemical (covalent) bonding within the polymer chain structure. As stated in the Pinto Affidavit, the elements of a polymer chain structure are bonded only through covalent bonding. This is a scientific principal applicable to all polymer chains.

The characterization of the “chemical bonding” within the present specification as inclusive of mere hydrogen or ionic bonding as opposed to covalent bonding runs counter to the science of a precursor composition. A precursor composition that is polymerized into a polymer chain is by definition a precursor to the covalent bonding formed during the polymerization process. Appellant provides the attached Exhibit 1 entitled “A Brief Introduction To Polymeric Materials” to show that Appellant’s analysis is in line with widely understood meanings in the art (See pg. 16 - <http://courses.washington.edu/mengr553/Polymers.pdf>)

Furthermore, the law on claim interpretation supports Appellant's reading of claim 1. Although, the Patent Office is to give elements of the claims their "broadest reasonable" construction, that "protocol . . . does not include giving claims a legally incorrect interpretation." *In re Skvorecz*, 580 F.3d 1262, 1267 (Fed. Cir. 2009). Indeed, "[t]his protocol is solely an examination expedient, not a rule of claim construction." *Id.* (emphasis added).

The "broadest reasonable" construction is not unbounded, but instead must be "consistent with the specification." *In re Buszard*, 504 F.3d 1364, 1368 (Fed. Cir. 2007). Therefore, during prosecution, it is improper to ignore the specification and the context that it provides. *Id.*; *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (*en banc*) ("claims must be read in view of the specification, of which they are a part.").

In claim 1 the "...polymerizable liquid composition also includes at least one phosphorous group *as an additional precursor* such that said phosphorus group *is chemically bonded to said polymer* after polymerization." The claim term "chemically bonded" means chemically bonded to the polymer in a manner consistent with polymerization of the precursor(s), namely covalently bonded. As noted above, the specification and file history, including the expert Affidavit, support this interpretation of the element of "chemical bonded" from the claims.

On the contrary, if the Examiner and Board's interpretation of "chemically bonded" as set forth in the Decision on Appeal were applied to claim 1, the claim would be scientifically inoperable. For example, if chemically bonded were construed to mean ionic or hydrogen bonding, it would make no sense in the context of the language of

claim 1. The limitation of claim 1 "...polymerizable liquid composition also includes at least one phosphorous group as an additional precursor such that said phosphorus group is *chemically bonded to said polymer after polymerization.*" has no coherent meaning in the art or within the context of the specification if ionic or hydrogen bonding is used as the interpretation for chemical bonding. It is not possible to form a polymer chain with ionic or hydrogen bonding.

It appears that the Board and the Examiner are referring to instances of hydrogen and ionic bonding between the individual chains of a polymer and confusing these sorts of bonds with covalent bonding that occurs during polymerization to form a polymer chain. Once the polymer chains are formed these chains may experience varying degrees of hydrogen or ionic bonding between the chains, but this sort of bonding occurs after the chains are already formed. The present claim 1 does not address these types of post polymerization bonding between the chains but rather claims that the polymerizable liquid composition includes at least one phosphorous group as an additional precursor.

Appellant submits that the Examiner's has committed a reversible error in this respect. Moreover, Appellant requests rehearing by the Board consistent with the above comments.

In particular, Appellant believes the Board misapprehended this argument and gave undue deference to the Examiner's interpretation of the element of the claims. However, as noted above, although claim language is normally given its broadest ordinary meaning, the terms are still constrained by the specification itself and how those terms are viewed in light of such specification

In view of the foregoing, Appellant respectfully submits that Board and Examiner



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have erred in finding the claims of the present application obvious over the cited references and requests that the Board of Appeals and Interferences re-hear the prior arguments set forth in the Appeal Brief *further in view of the clarifications and arguments set forth above in this Request.*

Respectfully submitted

SOFER & HAROUN, LLP

Dated: February 16, 2010

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